



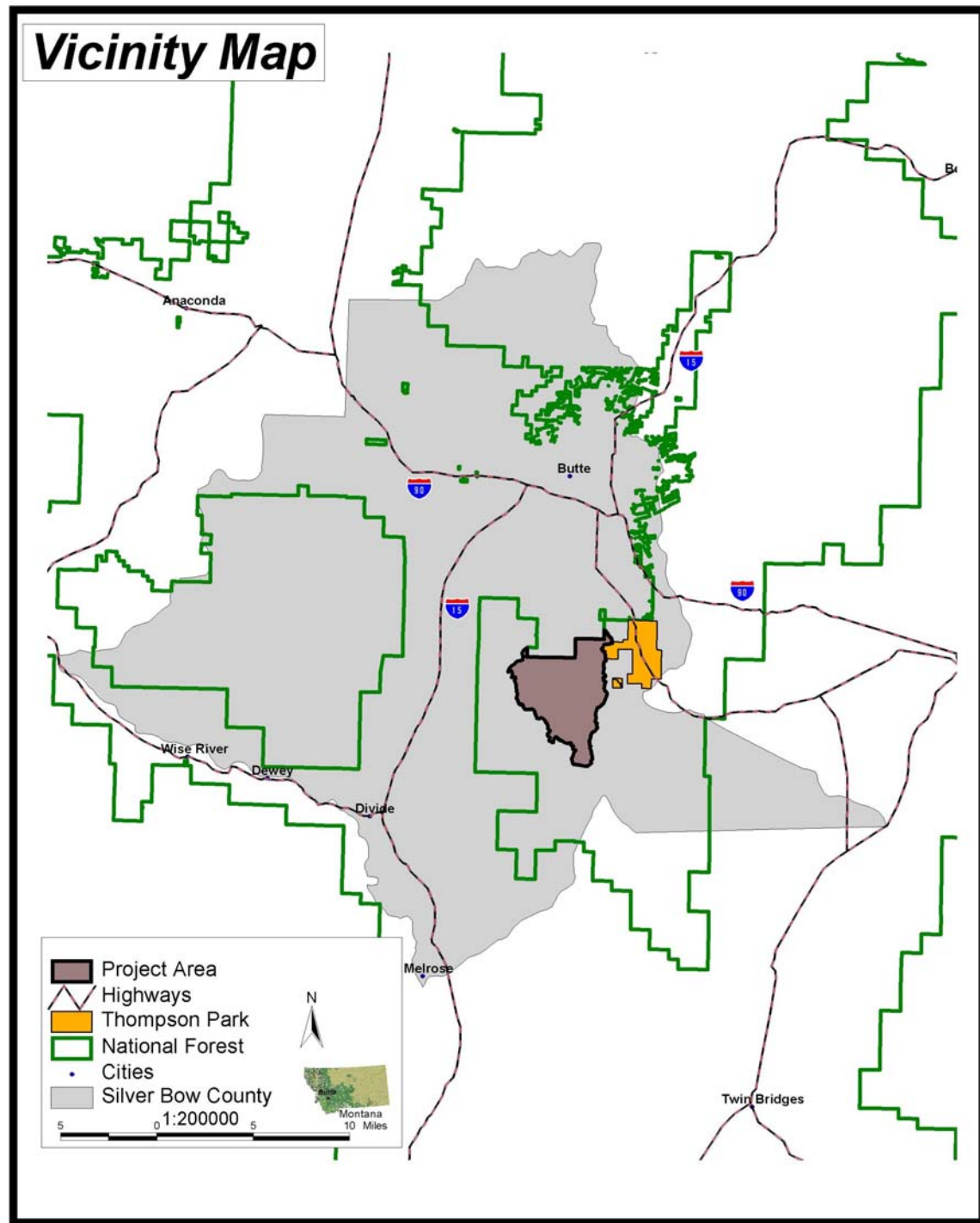
## **USDA FOREST SERVICE**

### **BEAVERHEAD-DEERLODGE NATIONAL FOREST BUTTE RANGER DISTRICT**

#### **Record of Decision and Final Environmental Impact Statement Basin Creek Hazardous Fuels Reduction Project**

**Butte-Silver Bow County, MT  
May 2004**





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**BEAVERHEAD-DEERLODGE NATIONAL FOREST  
BASIN CREEK HAZARDOUS FUELS REDUCTION  
RECORD OF DECISION  
BUTTE RANGER DISTRICT  
SILVERBOW COUNTY, MONTANA**

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ROD MAP 1: TREATMENT UNITS FOR THE SELECTED ALTERNATIVE 3

## INTRODUCTION

This Record of Decision (ROD) documents my selection of management activities to reduce hazardous fuels in the Basin Creek project area on the Butte Ranger District of the Beaverhead-Deerlodge National Forest. I have selected Alternative 3 for implementation.

The 14,320-acre project area is approximately eight miles south of Butte, Montana, in the foothills of the Highland Mountains.

The Draft Environmental Impact Statement (DEIS) was issued for public review in September of 2003. The Final Environmental Impact Statement (FEIS) is being released with this Record of Decision. Copies of the FEIS are available at the Beaverhead-Deerlodge National Forest Supervisor's Office, 420 Barrett Street, Dillon, Montana 59725, (telephone: 406-683-3900) and at the Butte Ranger District Office, 1820 Meadowlark Lane, Butte, Montana, 59701, (telephone: 406-494-2174).

This Record of Decision provides information about the project area, the purpose and need for the project, public involvement, issues identified, and alternatives considered. Most important, it is a summary of the selected alternative and the principal factors I considered in making my decision. Also documented are findings required by laws and policies, as well as information about the appeal process and implementation of this decision.

More detailed discussion of the purpose and need for this project, alternative descriptions, resource information, and environmental effects are found in the FEIS and project file.

## SUMMARY OF MY DECISION

I have completed my review of public comment, and the analysis presented in the Basin Creek Hazardous Fuels Reduction FEIS and I have concluded action is necessary to increase firefighter and public safety and reduce the risk of damage to the Basin Creek municipal watershed and public and private property in the event of a wildland fire. I am selecting Alternative 3, the Proposed Action, as described in the Basin Creek Hazardous Fuels Reduction FEIS. Alternative 3 will reduce hazardous fuels on approximately 2,600 acres and emphasizes treatment activities in the intermix community (a type of wildland/urban interface), along the Forest/Private boundary, and on slopes west of Roosevelt Drive.

Currently, two hazardous fuels situations occur within the project area. An immediate hazard exists adjacent to private property and along the Forest boundary in the form of standing dead lodgepole pine with red needles, and in Douglas-fir stands at high risk for crown fire. A future threat occurs in lodgepole pine stands as a result of a mountain pine beetle epidemic creating heavy accumulations of standing and downed fuel.

Treatments in the intermix community and along the Forest/Private boundary will vary in width from 1/8 to 1/4 mile depending on fuels and topography, and will be 1/4 mile where fuels are greatest, and slopes are steepest. Tree densities will be reduced by thinning in Douglas-fir stands that contribute to crown fires.

Dead and dying trees will be removed from lodgepole pine stands affected by the mountain pine beetle that pose a risk for future high intensity surface fires. Additionally, all stands with a crown fire hazard rating of "Moderate" and stands with a risk of future high intensity surface fire on the slope west of Roosevelt Drive will be treated.

Map 1 displays the locations of the various fuels reduction treatments associated with the selected alternative. My decision incorporates all of the mitigation and monitoring requirements listed on pages 2.5 to 2.10 in the FEIS. My decision tiers to and incorporates by reference the Deerlodge Forest Plan (1987) and implements the plan's goals and management direction.

My decision is to:

1. Remove conifers and burn sagebrush on 334 acres of colonized parks to decrease fire intensity and increase defensible space for fire fighter safety. These treatments will be located in the northern part of the project area along the Forest/Private land boundary near Basin Creek and in the central portion of the project area west of Roosevelt Drive.
2. Treat 708 acres of mature Douglas-fir stands at high risk for crown fire by removing most of the encroaching lodgepole pine trees and thinning Douglas-fir to retain the oldest and largest diameter trees. Trees will be retained in clusters but the space between the crowns of the trees will be maintained to reduce the potential for spread of crown fire. These treatments will be located throughout the northeastern portion of the project area east of Basin Creek and west of Roosevelt Drive.
3. Treat 283 acres of pole-sized Douglas-fir stands at moderate risk for crown fire by removing lodgepole pine and thinning Douglas-fir. The canopy of the tree stands will become more open and reduce the potential for spread of crown fire. These treatments will occur adjacent to private land in the vicinity of Basin Creek, China Gulch and west of Roosevelt Drive.
4. Treat 1,158 acres of mature lodgepole pine stands at high risk for future high intensity surface fire by removing most of the lodgepole pine trees. Clusters of small diameter lodgepole pine trees will be retained in areas where trees killed by mountain pine beetle would not contribute to future high intensity surface fire. Snags will be retained to meet Forest Plan standards. These treatments will occur throughout the northeastern portion of the project area east of Basin Creek and west of Roosevelt Drive.
5. Thin 117 acres of pole-sized lodgepole pine stands at moderate risk for crown fire and future high intensity surface fire to approximately 300-425 trees per acre. The overall stand characteristics will change from dense stands with a substantial component of small diameter trees to a more open stand condition containing larger diameter trees. Clusters of dead trees will be removed creating small openings generally less than two acres in size. These treatments will occur in three small units; two in the northern part of the project area and one west of Highland Road adjacent to private land.
6. Construct approximately 14 miles of new temporary roads and two temporary stream crossings; maintain two miles of existing classified roads, two miles of existing unclassified roads. All newly constructed temporary roads will be restored by re-contouring, seeding and covering with slash after project implementation. Existing classified roads would remain open and one mile of unclassified roads (25720 and 25769) would be restricted to administrative use for fire protection.
7. Trees will be whole-tree yarded using ground-based systems to landings. Approximately 10-15 tons/acre of woody debris greater than three inches will be left on site for soil nutrient cycling and to mitigate erosion. Some fuel may remain on the ground as a result of breakage and existing woody debris. These concentrations will be piled and burned in small jackpots or underburns that will limit damage to residual trees. Down woody debris on sites within 200 feet of private

boundaries will be cleaned up as much as possible to provide added protection and may not meet the 10-15 tons/acre that the sites further away will have. Landings will have 100 percent slash disposal and will be recontoured and reseeded to pre-treatment conditions. These areas will be monitored and treated, as needed, for noxious weeds.

## **RATIONALE FOR DECISION**

A combination of different considerations led to my decision to implement Alternative 3. I evaluated comments received on the DEIS and analysis by the interdisciplinary team.

I considered four primary criteria in making my decision. They are:

- How the alternative responds to the Purpose and Need for Action.
- How well the alternative responds to environmental and social issues.
- How the alternative is consistent with Forest Plan Standards, Goals, and Objectives.
- How the alternative is consistent with findings required by other laws, regulations, and policies.

### **Response to Purpose and Need**

All four action alternatives analyzed in the FEIS are responsive to the purpose and need for action. All action alternatives meet the purpose of modifying vegetation conditions and reducing hazardous fuels to address the need for increased firefighter and public safety, reduced potential for wildfire to spread into the Basin Creek Municipal Watershed, and reduced potential for damage to public and private property and structures from wildfire within the project area. Alternative 3 best meets the purpose and need for action and reduces hazardous fuels on the most acres when considered in combination with the three other decision criteria. The No Action Alternative is not responsive to the purpose and need for action.

### **Response to Environmental and Social Issues**

Three key issues were identified through public involvement and interdisciplinary analysis of this proposal. They are detrimental impacts to Inventoried Roadless Area characteristics, adverse effects to threatened Canada Lynx habitat, and adverse effects to visual quality from fuels reduction treatments within the project area. Inventoried roadless area preservation and effects to threatened Canada Lynx habitat are driving issues leading to alternative development. Adverse effects to scenery do not drive an alternative; however a Forest Plan amendment would be required to implement Alternatives 4 or 5. Issues identified through public involvement and interdisciplinary analysis are described in detail in the Basin Creek Hazardous Fuels Reduction FEIS in Chapter 1 – Key Issues (page 1.10) and Chapter 2 – Comparison of Alternatives (pages 2.18-2.21).

I have selected Alternative 3 because it is responsive to issues raised by the public and the interdisciplinary team and best meets the purpose and need for action without detrimentally impacting Inventoried Roadless Area characteristics, adversely affecting threatened Canada Lynx habitat, or diminishing visual quality.

## Consistency with Forest Plan Standards, Goals, and Objectives

The National Forest Management Act (NFMA) and accompanying regulations require that “All resource plans....must be consistent with the Forest Plan” [16 U.S.C. 1604 (i)]. Management of lands in the Basin Creek Hazardous Fuels Reduction Project area is guided by the Deerlodge National Forest Land and Resource Management Plan (Forest Plan), approved in 1987. Forest Plan management direction, including forest-wide goals, objectives, and standards for Management Areas relevant to the proposed action, is displayed in the Basin Creek Hazardous Fuels Reduction FEIS (pages 1.5-1.8). The desired condition developed for this project is consistent with Forest Plan Direction and Standards.

I have evaluated the alternatives and compared them to the Forest Plan goals, objectives and resource standards. I have determined that Alternative 3 is consistent with the Forest Plan and will contribute more toward reaching the goals and objectives of the plan than the No Action Alternative or the other three action alternatives.

## Consistency with Findings Required by Other Laws, Regulations, and Policies

Numerous laws, regulations, and agency directives require that my decision be consistent with their provisions. Alternative 3 is consistent with all laws, regulations, and agency policy. Compliance with the national Roadless Area Conservation Rule was identified as an issue during scoping. The rule is currently not in effect due to an injunction by the U.S. District Court; however, this decision has been appealed. A description of the legal status of the Roadless Area Rule is provided on page 23 of this Record of Decision.

A complete summary of the pertinent laws, regulations and policies is provided on pages 15-18 of this Record of Decision.

Following is a decision matrix of the primary criteria I considered in Selecting Alternative 3.

Criteria	Alt. 1 No Action	Alt. 2	Alt. 3 Selected	Alt. 4	Alt. 5
<b>Responsive to Purpose and Need</b>	No	Yes	Yes	Yes	Yes
<b>Responsiveness to Issues</b>					
Does the alternative address					
Detrimental Impacts to Inventoried Roadless Character?	Yes	Yes	Yes	No	Yes
Adverse Effects to Threatened Canada Lynx Habitat?	Yes	Yes	Yes	No	No
<b>Consistency with Forest Plan Goals and Standards</b>					
Is the alternative consistent with FP visual quality objectives?	Yes	Yes	Yes	No	No
<b>Consistency with Findings Required by Other Laws</b>					
Does the alternative comply with Roadless Conservation Rule?	Yes	Yes	Yes	No	Yes
Does the alternative comply with the Lynx Conservation Strategy?	Yes	Yes	Yes	No	No

Alternatives 2 and 3 are responsive to the purpose and need and key issues and are consistent with the Roadless Area Conservation Rule, the Lynx Conservation Assessment and Strategy, and Forest Plan Visual Quality Objectives, however, Alternative 3 best meets the purpose and need for action. Alternative 3 reduces hazardous fuels on more acres and provides greater opportunities for increased firefighter and public safety, reduced potential for wildfire to spread into the Basin Creek Municipal Watershed, and reduced potential for damage to public and private property and structures from wildfire within the project area.

## **PUBLIC INVOLVEMENT**

Basin Creek Hazardous Fuels Reduction Project has been listed on the Beaverhead-Deerlodge National Forest Schedule of Proposed Actions since January 2002. The public has been invited to participate in the project during public meetings; through mailings to interested parties, government agencies, tribes, and stakeholders; and through press releases to local media.

On May 29, 2002, a letter providing information and seeking public comment was mailed to approximately 480 individuals and groups. This included federal and state agencies, Native American groups, municipal offices, businesses, interest groups, and individuals. A total of 23 responses to this initial mailing were received. This scoping notice was also available online at [www.fs.fed.us/r1/b-d/](http://www.fs.fed.us/r1/b-d/) in the reading room.

A press release was printed in The Montana Standard on June 18, 2002.

A postcard was mailed on February 11, 2003, to update the mailing list and inform interested parties of the project status.

A Notice of Intent to prepare an environmental impact statement was published in the Federal Register on April 14, 2003.

Meetings with Butte-Silver Bow Commissioners were held in February, April, and June, 2003.

Three public meetings were held in Butte to involve and inform stakeholders. Representatives from Montana Department of Environmental Quality (MT DEQ), Environmental Protection Agency (EPA), Butte-Silver Bow County and the Butte Fire Protection District attended meetings held by the Forest Service on November 4, November 14, and November 23, 2003. Personal visits were also conducted with members of the Shoshone-Bannock and Salish-Kootenai tribes.

A Notice of Availability of the Draft EIS was published in the Federal Register on October 24, 2003, which started a 45-day public comment period. A legal notice announcing the availability of the Draft EIS was published in the Montana Standard on October 24, 2003.

The Draft EIS was mailed to approximately 180 individuals, agencies, and interest groups.

Twenty-three comment letters were received during the 45-day comment period and are included in Chapter 5 of the FEIS.

## **ALTERNATIVES CONSIDERED**

The issues identified through the public involvement and interdisciplinary processes were used to formulate alternatives to the proposed action and are described in the FEIS (pages 2.1-2.10).

Four action alternatives, including the proposed action (Alternative 3) were developed in response to the purpose and need and issues identified during internal and public scoping. Alternative 1 is the no action alternative under which the project area would have no treatments for fuel reduction, no temporary road construction, and would remain subject to natural changes. Alternatives 2, 3, 4, and 5 incorporate varying amounts of treatment in the intermix community and throughout the Basin Creek Watershed to provide a range of means to address the purpose and need.

### **Alternative 1 (No Action)**

The No Action alternative means no change in the current management in the Basin Creek Project Area. The Council on Environmental Quality (CEQ) regulations (40 CFR 1502.14d) requires that a No Action alternative be analyzed in every EIS. No treatments would occur that would reduce hazardous fuel accumulations and no temporary road construction or road maintenance would occur. The current conditions would change over time, particularly accumulations of dead trees from the current mountain pine beetle epidemic. The year 2028 represents future fuel conditions after the majority of dead trees have fallen to the ground increasing the hazardous fuels situation. This alternative represents conditions to which all the action alternatives are compared.

### **Alternative 2**

Alternative 2 would treat approximately 1,102 acres along the Forest/Private boundary. The alternative emphasizes treatment in the intermix community, and along the Forest boundary. The area of treatment would vary in width from 1/8 to 1/4 mile depending on fuels and topography, and would be 1/4 mile where fuels are greatest, and slopes are steepest. Treatments would occur in all stands along the Forest/Private boundary. Tree densities would be reduced by thinning in Douglas-fir stands that contribute to crown fires. Dead and dying trees would be removed from lodgepole pine stands that would contribute to future high intensity surface fires. This alternative responds to the need for reducing the threat to life and property from wildfire in the intermix community. No treatment in Inventoried Roadless Areas would occur in Alternative 2.

This alternative would require approximately eight miles of new temporary road construction and four temporary stream crossings. Maintenance on existing road prisms of two miles of classified roads would also be necessary. Following fuels treatments all newly constructed temporary roads would be restored by re-contouring, seeding and covering with slash after project implementation. Existing classified roads would remain open.

### **Alternative 3 (Proposed Action)**

Alternative 3, the Proposed Action, proposes treatment on approximately 2,602 acres, and emphasizes treatment in the intermix community, along the Forest boundary, and on the slopes west of Roosevelt Drive. This alternative would reduce fuels along the Forest/Private boundary the same as Alternative 2. In addition, Alternative 3 would treat all stands with a crown fire hazard rating of "Moderate" and stands with a risk of future high intensity surface fire on the slope west of Roosevelt Drive. No treatment in Inventoried Roadless Areas would occur in this alternative.

Alternative 3 would require approximately 14 miles of new temporary road construction and two temporary stream crossings. Maintenance on existing road prisms of two miles of classified roads and two miles of unclassified roads would also be necessary. Following fuels treatments all newly constructed temporary roads would be restored by re-contouring, seeding and covering with slash after project implementation.

Existing classified roads would remain open and one mile of unclassified roads (25720 and 25769) would be restricted to administrative use for fire protection.

## **Alternative 4**

Alternative 4 proposes treatment on approximately 4,267 acres, and emphasizes treatment in the intermix community, along the Forest boundary, and throughout the Basin Creek Municipal Watershed. Alternative 4 would treat the Forest/Private boundary the same as Alternative 2. In addition, this alternative proposes to treat stands based on traditional methods for placement of fire suppression lines, in strategic locations, which would offer a safer environment for firefighters to initiate direct attack. Treatment units would be restricted to upper slopes and ridgetops in areas that contribute to crown fires and future high intensity surface fires. Thinning would occur in Douglas-fir stands that contribute to crown fires, and dead trees would be removed in lodgepole pine stands that would contribute to future high intensity surface fires.

Alternative 4 proposes approximately 1,257 acres of treatment in the Inventoried Roadless Area. Within the Inventoried Roadless Area, treatment would be accomplished using feller-bunchers and other equipment, which would enter the area on an access trail. The trail, which is currently open to motorized use, is located in the Basin Creek Inventoried Roadless Area near Bear Gulch. The trail would remain open after the project is completed however, it would be closed to the public during logging operations.

In the Inventoried Roadless Area, merchantable trees would be removed using helicopter yarding methods. Slash and remaining non-merchantable material would be piled using a combination of machine and hand piling and then burned.

This alternative would require approximately 13 miles of new temporary road construction and two temporary stream crossings. Maintenance of existing road prisms on one mile existing classified road, three miles of unclassified roads, and five miles of access trail would also be necessary. Temporary closure of Trail 108 would be required during helicopter operations. Following fuels treatments all newly constructed temporary roads would be restored by recontouring, seeding and covering with slash after project implementation. Restoration would also occur on two miles of existing unclassified roads. Existing classified roads would remain open and one mile of unclassified roads (25720 and 25769) would be restricted to administrative use for fire protection only.

## **Alternative 5**

Alternative 5 would treat the project area the same as Alternative 4 but would exclude the Inventoried Roadless Area. This alternative proposes to reduce fuels on approximately 3,010 acres. It would require approximately 13 miles of new temporary road construction and two temporary stream crossings. Maintenance on existing road prisms of about one mile of classified road and three miles of unclassified road would also be necessary. Following fuels treatments all newly constructed temporary roads would be restored by recontouring, seeding and covering with slash after project implementation. Restoration would also occur on two miles of existing unclassified roads. Existing classified roads would remain open and one mile of unclassified roads (25720 and 25769) would be restricted to administrative use for fire protection only.

## SUMMARY OF ALTERNATIVES

The following table summarizes treatments by alternatives.

### Summary of Treatments by Alternative (Approximate Acres)

Habitat Type	Type of treatment	Alt. 1 (No Action)	Alt. 2	Alt. 3 (Proposed Action)	Alt. 4	Alt. 5
Colonized Parks	Remove conifers and burn sagebrush to decrease fire intensity and increase defensible space	0	181	334	337	318
Mature Douglas-fir at high risk to crown fire	Remove most lodgepole. Thin Douglas-fir to basal area of 40-80 sq ft/acre. Retain oldest and largest trees. Retain trees in clumpy distribution, but maintain space between crowns to reduce the spread of crown fire.	0	274	708	756	747
Douglas fir pole at moderate risk to crown fire	Remove lodgepole and thin Douglas-fir to basal area of 40-80 sq ft/acre. Open canopy to reduce crown fire spread potential.	0	245	283	446	429
Mature lodgepole pine at high risk to high intensity surface fire	Remove most lodgepole pine. Retain small diameter lodgepole, Douglas-fir, and snags.	0	288	1158	1900	1118
Lodgepole pine pole at moderate risk to both crown and surface fire	Thin to basal area of 80-120 sq ft/acre (approx. 300-425 trees/acre). Create open stand with larger diameter trees. Remove small pockets of dead trees (generally less than 2 acres.)	0	114	117	828	398
Road Treatments	<ul style="list-style-type: none"> <li>- Miles of new temporary road construction</li> <li>- Miles of maintenance on existing classified roads</li> <li>- Miles of maintenance on existing unclassified roads</li> <li>- Miles of maintenance on access trails</li> </ul>	0	8 2 <1	14 2 2	13 1 3 5	13 1 3
Total Road Treatment			11	18	22	17

## SUMMARY OF EFFECTS

A summary of the effects of the alternatives is provided in the following tables.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
<b>Fire and Fuels</b>					
Acres where future fuel loads are reduced to 10-15 tons/acre.	0	1102	2541	4272	3013
Acres where crown fire hazard attains a "Low" rating.	0	633	1107	1993	1536
Acres of colonized sage/grass parks where conifer encroachment has been reduced.	0	181	311	361	342
<b>Threatened, Endangered, Sensitive, and Management Indicator Species</b>					
<b>Threatened and Endangered Species</b>					
<b>Gray wolf (experimental/nonessential)</b>					
Distance in miles of treatment related disturbance to wolf den and rendezvous sites.	There are no known wolf den and rendezvous sites in the analysis area.	There are no known wolf den and rendezvous sites in the analysis area.	There are no known wolf den and rendezvous sites in the analysis area.	There are no known wolf den and rendezvous sites in the analysis area.	There are no known wolf den and rendezvous sites in the analysis area.
Percent change in acres of unroaded, security habitat	0. Habitat security remains at 32 percent.	2 percent. Habitat security reduced from 32 to 30 percent.	5 percent. Habitat security reduced from 32 to 27 percent.	9 percent. Habitat security reduced from 32 to 23 percent.	7 percent. Habitat security reduced from 32 to 25 percent.
Qualitative assessment of change in ungulate prey base.	No fire: Short term – hiding cover not expected to change Long term – forage declines in quality/quantity as conifers increase in density. With wildfire: Short term –hiding cover reduced Long term – increase in foraging habitat	Foraging potential increases. Decreased habitat security Increased vulnerability to hunter harvest. Total available biomass of prey base not expected to change, and prey base has continued to increase despite increasing number of hunters.	Same as Alt. 2.	Same as Alt. 2.	Same as Alt. 2.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
<b>Canada lynx (threatened)</b>					
Changes in the percent of available lynx foraging, denning, and overall changes in lynx habitat to an unsuitable condition	Mountain pine beetle epidemic increases the quality of lynx habitat by providing downed woody debris, canopy gaps, and regeneration. The increase in structural and plant diversity enhances foraging and denning habitat.	4percent of mapped habitat in Basin-Butte LAU, and < 1 percent in Blacktail LAU is temporarily reduced to an unsuitable condition. Treatment is concentrated at low elevation, where habitat occurs in discontinuous blocks. Increase in foraging habitat following treatment.	11 percent of mapped habitat in Basin-Butte LAU, and < 1percent in Blacktail LAU is temporarily reduced to an unsuitable condition. Treatment is concentrated at low elevation, where habitat occurs in discontinuous blocks. Increase in foraging habitat following treatment.	20 percent of mapped habitat in Basin-Butte LAU, and 2 percent in Blacktail LAU is reduced to an unsuitable condition. Reduction in habitat connectivity could temporarily impede lynx movements. Treatment at high elevation may compromise habitat security. Foraging habitat will increase long term.	15 percent of mapped habitat in Basin-Butte LAU, and 2 percent in Blacktail LAU is reduced to an unsuitable condition. Reduction in habitat connectivity could temporarily impede lynx movements. Treatment at high elevation may compromise habitat security. Foraging habitat will increase long term.
Compliance with applicable standards and guidelines in the LCAS	Complies	Complies	Complies	<b>Inconsistent with 2 LCAS Standards:</b> 1) Habitat connectivity not maintained within and between LAUs and 2) Management actions change more than 15 percent of lynx habitat to an unsuitable condition within a 10-year period.	<b>Inconsistent with 2 LCAS Standards:</b> 1) Habitat connectivity not maintained within and between LAUs
<b>Bald eagle (threatened)</b>					
Distance in miles of treatment-related activity to known occupied nest and/or winter communal roost areas.	No known nest or winter communal roost sites are located in nor near the analysis area.	No known nest or winter communal roost sites are located in nor near the analysis area.	No known nest or winter communal roost sites are located in nor near the analysis area.	No known nest or winter communal roost sites are located in nor near the analysis area.	No known nest or winter communal roost sites are located in nor near the analysis area.
Qualitative assessment of change in suitable nesting and foraging habitat.	No effect	No effect	No effect	No effect	No effect
<b>Sensitive Species</b>					

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
<b>Flammulated owl</b>					
Percent change in available suitable habitat from proposed treatment activities.	4,454 acres available; No change	-273 acres; 6 percent	-709 acres; 17 percent	-786 acres; 18 percent	-777 acres; 17 percent
<b>Northern goshawk (also MIS-old growth)</b>					
Percent change in acres of potential and known nesting habitat from proposed vegetation treatments.	890 acres available; No change	-31 acres; 3 percent	-98 acres/ 11 percent	-98 acres; 11 percent	-39 acres; 4 percent
Affect on occupied nest sites.	N/A	40-acre no harvest buffer around 2 nest sites.	40-acre no harvest buffer around 2 nest sites.	40-acre no harvest buffer around 2 nest sites	40-acre no harvest buffer around 2 nest sites.
percent change in acres of Douglas-fir old growth	337 acres present; no change	No net change	No net change	No net change	No net change
<b>Peregrine falcon</b>					
Measured distance from proposed activities to available cliff nesting habitat.	No suitable habitat available	No suitable habitat available	No suitable habitat available	No suitable habitat available	No suitable habitat available
Percent change in acres of available riparian foraging habitat.	437 acres available; no change	No net change	No net change	No net change	No net change
<b>Black-backed woodpecker</b>					
Percent change in acres of available snag habitat.	7,225 acres available; no change	-288 acres; 4 percent	-1123 acres; 16 percent	-1,918 acres; 27 percent	-1,135 acres; 6 percent
<b>Wolverine</b>					
Percent change in acres of available security habitat.	11,289 acres available; no change	No net change	No net change	No net change	No net change
Qualitative assessment of change in prey base.	No reduction of prey base	No reduction of prey base	No reduction of prey base	No reduction of prey base	No reduction of prey base
<b>Fisher</b>					
Percent change in acres of available forested and riparian habitat.	19,587 acres available; no change	-150 acres; < 1 percent	-659 acres; 3 percent	-1,001 acres; 5 percent	-680 acres; 3 percent
<b>Northern bog lemming</b>					
Percent change in available bog, fen habitat	437 acres available; no change	No net change	No net change	No net change	No net change
<b>Townsend's big-eared bat</b>					
Distance from proposed activities to suitable	No known sites in analysis area.	No known sites in analysis area.	No known sites in analysis area.	No known sites in analysis area.	No known sites in analysis area.

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
caves.					
Percent change in acres of riparian foraging habitat.	437 acres available; no change	No net change	No net change	No net change	No net change
<b>Management Indicator Species</b>					
<b>Hairy Woodpecker (MIS-old growth)</b>					
Percent change in acres of lodgepole pine and subalpine fir old growth	2,471 acres available; no change	No net change	No net change	No net change	No net change
<b>Three-toed woodpecker</b>					
Percent change in burned or insect-killed forest	7,225 acres available; no change	288 acres; 4 percent	1,123 acres; 16 percent	1,918 acres; 27 percent	1,135 acres; 16 percent
<b>Sage thrasher, montane vole (MIS-dry grassland/sage)</b>					
Percent change in dry grass/sage communities	1,419 acres available; no change	211 acres; 15 percent	359 acres; 25 percent	359 acres; 25 percent	342 acres; 24 percent
<b>Northern water shrew, warbling virio, belted kingfisher, willow flycatcher, western jumping mouse, blue-winged teal (MIS-riparian)</b>					
Percent change in shrub, tree, wet meadow, and marshland riparian habitats	357 acres available; no change	No net change	No net change	No net change	No net change
<b>Elk (MIS-commonly hunted)</b>					
Percent change in available security habitat during the hunting season.	11,289 acres available; 32 percent (no change)	10,502 acres available; 30 percent (2 percent change)	9,493 acres available; 27 percent (5 percent change)	7,411 acres available; 21 percent (11 percent change)	9,218 acres available; 26 percent (6 percent change)
Percent change in elk hiding cover.	42.2 percent available; No change (Forest Plan Standard is 35 percent)	40.5 percent available	39.4 percent available	36.6 percent available	38.2 percent available
Percent change in open road density.	0.77 existing (Forest Plan standard is <0.50)	0.92 during treatment; 0.77 post treatment	1.08 during treatment; 0.77 post treatment	1.08 + motorized use on 5 miles of trail in inventoried roadless during treatment; 0.77 post treatment	1.08 during treatment; 0.77 post treatment
Change in elk effective cover (EEC)	67; No change (Forest Plan standard is 80)	63 during treatment; 67 post treatment	58 during treatment; 67 post treatment	57 during treatment, 66 post treatment	57 during treatment; 66 post treatment
Change in foraging	Forage declines in	Forage increases	Forage increases	Forage increases	Forage increases

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
habitat	quantity/quality through conifer succession.	in treated Douglas-fir/grassland parks. Treats the least amount.	in treated Douglas-fir/grassland parks. Treats third lowest amount.	in treated Douglas-fir/grassland parks. Treats the most.	in treated Douglas-fir/grassland parks. Treats second highest amount.
<b>Moose</b>					
Change in acres of available foraging habitat.	In areas affected by mountain pine beetle, foraging will gradually increase over a 20-year period until the density of downed wood impedes use of stands.	Temporary displacement during treatment. For the long term, foraging potential increases in thinned and clear cut stands once conifers and forage plants sufficiently regenerate.	Temporary displacement during treatment. For the long term foraging potential increases in thinned and clear cut stands once conifers and forage plants sufficiently regenerate.	Temporary displacement during treatment. For the long term foraging potential increases in thinned and clear cut stands once conifers and forage plants sufficiently regenerate.	Temporary displacement during treatment. For the long term foraging potential increases in thinned and clear cut stands once conifers and forage plants sufficiently regenerate.
<b>Aquatic Species and Habitats</b>					
Displaced sediment and ground disturbance could reduce habitat for sensitive aquatic species (westslope cutthroat trout, boreal toad and northern leopard frog.)					
Miles of road construction / reconstruction within 300 feet of streams that could displace sediment and reduce habitat for westslope cutthroat trout and boreal toads.	0	2.3 (.9 temporary)	3.3 (2.1 temporary)	3.5 (includes 1.2 trail mile of motorized trail)	2.3 (1.6 temporary)
Miles of stream/ riparian habitat adjacent to proposed fuels reduction activities.	0	3.5	10.1	5.5	4.9
<b>Water Quantity/Quality</b>					
Acres of treatment that could affect channel stability and sediment production	0	1104	2544	4276	3018
Miles of road that could affect channel stability and sediment production	0	8	17	17 and 5 miles of maintenance trails	17
Number of stream crossings that could affect channel stability sediment production	0	1	2	2	2
<b>Soils</b>					

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
Percent Detrimental Soil Disturbance (DSD): Upper Basin Watershed Blacktail Watershed China Watershed Herman Watershed Lower Basin Watershed <sup>1</sup> Existing DSD in Blacktail Watershed exceeds Soil Quality Standards due to disturbance on private land.	3.2% 35.2% <sup>1</sup> < 1% 1.2% 1.0%	6.8% 37.1% <sup>1</sup> 9.7% 11.7% 7.8%	3.5% 35.9% <sup>1</sup> 3.4% 6.8% 3.7%	6.8% 37.1% <sup>1</sup> 9.7% 11.7% 7.8%	5.2% 37.9% <sup>1</sup> 9.5% 11.6% 4.3%
<b>Inventoried Roadless Area Preservation</b>					
Acres of harvest in inventoried roadless	0	0	0	Approx. 835	0
Acres of burning in inventoried roadless	0	0	0	Approx. 19	0
Compliance with Roadless Area Conservation Rule	Roadless rule currently not in effect; Alt. 1 complies.	Roadless rule currently not in effect; Alt. 2 complies.	Roadless rule currently not in effect; Alt. 3 complies.	Roadless rule currently not in effect; Alt. 4 <b>does not comply</b> .	Roadless rule currently not in effect; Alt. 5 complies.
Change to the six wilderness attributes	The Basin Creek Roadless Area was not recommended for inclusion in the Wilderness Preservation System. No action would not detract from possible wilderness designation.	The Basin Creek Roadless Area was not recommended for inclusion in the Wilderness Preservation System. Alt. 2 would not detract from possible wilderness designation.	The Basin Creek Roadless Area was not recommended for inclusion in the Wilderness Preservation System. Alt. 3 would not detract from possible wilderness designation.	The Basin Creek Roadless Area was not recommended for inclusion in the Wilderness Preservation System. However, treatment would occur in the middle of the IRA. The remaining contiguous unaffected area is not large enough (greater than 5,000 acres) to warrant future wilderness consideration.	The Basin Creek Roadless Area was not recommended for inclusion in the Wilderness Preservation System. Alt. 5 would not detract from possible wilderness designation.
Change to the nine Roadless Areas Conservation Rule Characteristics	No change in the near future. However, there is a greater risk of a large high-severity wildfire than with the action alternatives. Wildfire could adversely affect soil productivity	Proposed treatments would not affect the soil and water resources in the IRA. There would be a short-term temporary increase in smoke emissions from prescribed burning	Proposed treatments would not affect the soil and water resources in the IRA. There would be a short-term temporary increase in smoke emissions from prescribed burning	Alt. 4 would produce the most smoke emissions of any of the action alternatives because of the number and size of treatment units. Smoke produced by a large wildland fire is less likely	Proposed treatments would not affect the soil and water resources in the IRA. There would be a short-term temporary increase in smoke emissions from prescribed burning

Measurement Indicator	Alt. 1	Alt. 2	Alt. 3 (Proposed)	Alt. 4	Alt. 5
	and water quality. Smoke could adversely affect air quality.	activities outside the roadless area.	activities outside the roadless area.	under this alternative.	activities outside the roadless area.
<b>Scenery</b>					
Compliance with Forest Plan Standards	No change; existing condition complies with Forest Plan standards, including the appearance of dead trees.	Treatment of mature lodgepole pine does not comply with the Visual Quality Objectives (VQOs) in the Deerlodge Forest Plan within Management Areas D2, MD2, C3, MC3, and A5. Treatment of mature lodgepole pine in these management areas would require amending the VQOs to modification.	Treatment of mature lodgepole pine does not comply with the Visual Quality Objectives (VQOs) in the Deerlodge Forest Plan within Management Areas D2, MD2, C3, MC3, and A5. Treatment of mature lodgepole pine in these management areas would require amending the VQOs to modification.	Treatment of mature lodgepole pine does not comply with the Visual Quality Objectives (VQOs) in the Deerlodge Forest Plan within Management Areas D2, MD2, C3, MC3, and A5. Treatment of mature lodgepole pine in these management areas would require amending the VQOs to modification.	Treatment of mature lodgepole pine does not comply with the Visual Quality Objectives (VQOs) in the Deerlodge Forest Plan within Management Areas D2, MD2, C3, MC3, and A5. Treatment of mature lodgepole pine in these management areas would require amending the VQOs to modification.

## ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

### Greater South Butte Analysis Area

The Forest originally looked at a project area that encompassed the current area, as well as Thompson Park, Lime Kiln, and the East Ridge. However, due to the complexity of each of these areas and a lack of funding to complete the analysis, the project area was scaled back to the Basin Creek Watershed.

### Use of Verbenone to Deter Mountain Pine Beetle

Verbenone is an experimental anti-aggregating pheromone used to deter mountain pine beetle. The chemical is placed into packets and tacked onto uninfested lodgepole pine trees. The pheromone sends out a signal that other beetles have already infested those trees. Beetles usually die before finding a suitable host tree, therefore ending their cycle. The U.S. EPA has not approved Verbenone. Should it ever be approved, the Forest Service would consider its use.

### 2002 Proposed Action and Alternatives

The Beaverhead-Deerlodge National Forest developed a preliminary proposed action and two alternatives in 2002 that proposed hazardous fuels reduction through a combination of thinning, clearcuts, and

prescribed burning on national forest land in the Basin Creek Watershed. These alternatives identified treatment areas in the Wildland Urban Interface - WUI (areas immediately west of Roosevelt Drive and along the Forest boundary to the north), and immediately around the reservoir, in an area called the "Red Zone." The red zone was delineated by hydrologic boundaries, and was the area around the Basin Creek Reservoir that could negatively affect water quality in the event of a wildfire. No treatment was proposed in the "Yellow" or "Green" zones around the reservoirs. The yellow zone was the buffer area, where impacts to water quality may be possible if a fire were to occur, and the green zone was the furthest from the watershed, where little affects to water quality from wildfire were anticipated.

The 2002 proposed action would have treated 3085 acres, including 1,511 acres in the red zone, and 1,574 acres in the Wildland Urban Interface (WUI). Alternative 3 would have treated 1947 acres, including 1,375 acres in the red zone, and 432 acres of understory burning and a 140-acre fuel break in the WUI. Alternative 4 excluded harvest in the inventoried roadless area on the west side of the reservoir. It proposed hazardous fuels reduction on approximately 2,020 acres, including 619 acres in the red zone, and 1404 acres in the WUI.

The Basin Creek project was redesigned in 2003, and all three of these alternatives were eliminated from detailed study. Various elements of proposed treatment in the WUI were retained and incorporated into the 2003 alternatives. However, the concept of the red, yellow, and green zones was dropped. Treatment units were moved away from the reservoir to ridge tops where they would be more likely to influence fire behavior. Locating treatment units further away from the reservoir also reduced the potential for sediment delivery into the reservoir from project-related activities.

## Prescribed Fire

Management ignited fire was initially considered as a method of reducing fuels in the project area. However, the project is located in a municipal watershed and in the intermix community, and the risk of escape limits its applicability in these areas. Fuel continuity across the project area limits the availability of anchor points and control lines. The presence of numerous snags also poses a risk to firefighters performing prescribed fire duties. Therefore, this approach was not considered in detail.

## FINDINGS REQUIRED BY OTHER LAWS

Numerous laws, regulations, and agency directives require that my decision be consistent with their provisions. I have determined that my decision is consistent with all laws, regulations, and agency policy. The following summarizes findings required by major environmental laws.

### **National Environmental Policy Act (NEPA)**

NEPA provisions and all regulations for implementation of NEPA (as required under 40 CFR 1500) have been followed in the development of this EIS and Record of Decision. The EIS analyzes an acceptable range of alternatives, including a "no action" alternative. It also discloses the expected impacts of each alternative, and discusses the identified issues and concerns. This document describes the decision I have made and my rationale for making it.

### **National Forest Management Act (16 USC 1600 et seq.)**

The National Forest Management Act (NFMA) and accompanying regulations require that several specific findings be documented at the project level. These are:

**Consistency With Forest Plan (16 USC 1604(i))**

The Deerlodge Forest Management Plan Forest Plan establishes management direction for the Deerlodge portion of the Beaverhead-Deerlodge National Forest. This management direction is achieved through the establishment of Forest Plan goals and objectives, standards and guidelines, and Management Area goals and accompanying standards and guidelines. Project implementation consistent with this direction is the process by which we move toward the desired condition described by the Forest Plan. Forest Plan direction provides the sideboards for project planning. In addition, the National Forest Management Act requires that all resource plans be consistent with the Forest Plan (16 USC 1604 (i)). The FEIS displays the Forest Plan and Management Area goals and objectives (FEIS, 1.5-1.8). The alternative development process is described in Chapters 2 of the FEIS and the environmental consequences of the alternatives in relation to the Forest Plan standards and guidelines are displayed in Chapter 3 of the FEIS. The selected alternative is consistent with the Forest Plan.

**Suitability for Timber Production**

No timber harvest, other than salvage sales or sales to protect other multiple-use values, shall occur on lands not suited for timber production [16 USC 1604(k)]. I have selected an alternative that will utilize timber harvest to implement hazardous fuels reduction for the purpose of achieving non-timber resource goals and objectives in areas designated as unsuitable for timber production (Management Areas C3, MC3, D2, and MD2) and areas designated as suitable for timber production (Management Areas E1 and ME1) by the Deerlodge National Forest Plan. Direction in the Forest Plan, page III-31, III-53, allows for management activities in areas designated as unsuitable for timber production that meet Management Area goals and objectives. Management activities selected for this project will occur in areas unsuitable for timber production that meet Management Area goals and objectives.

**Clearcutting and Even-aged Management**

When timber is to be harvested using an even-age management system, a determination that the system is appropriate to meet the objectives and requirements of the Forest Plan must be made and, where clearcutting is to be used, must be determined to be the optimum method [16 USC 1604(g)(F)(i)]. No clearcutting or even-aged management treatments are included in the Alternative I have selected.

**Vegetation Manipulation**

All proposals that involve vegetation manipulation of tree cover for any purpose must comply with seven requirements found at 36 CFR 219.27(b). I find that the prescribed management practices shall:

*Be best suited to the goals stated in the Forest Plan.* These goals are stated in the FEIS within Chapters I and III. Based upon review of pertinent information from the FEIS, personal field review, and the project file, I have determined that Alternative 3 is the best suited to meet these goals while responding to public concerns.

*Assure that technology and knowledge exists to adequately restock lands within five years after final harvest.* Past experience and analysis of local reforestation success have shown that these sites can be restocked within five years of treatment.

*Not be chosen because they will give the greatest dollar return.* The decision to implement the Selected Alternative was based on a variety of reasons as discussed earlier in this decision. Economics was considered during my decision making process.

*Be chosen after considering potential effects on residual trees and adjacent stands.* The selection of the Selected Alternative did consider the effects on residual trees and adjacent stands as discussed in the Vegetation section of the FEIS, 3.53 – 3.75.

*Be selected to avoid permanent impairment of site productivity and ensure conservation of soil and water resources.* The Selected Alternative avoids impairment of site productivity. This determination is supported by disclosures in the Hydrology/ Riparian (FEIS 3.183-3.206), Fisheries (FEIS, 3.148-3.182), and Soils (FEIS, 3.207-3.225) sections. Mitigation and BMP recommendations are displayed on pages 2.6 - 2.10 and in Appendix D (Soil and Water Conservation Practices Handbook).

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*Be selected to provide the desired effects on water quality and quantity, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields.* Alternative 3 provides the desired effect on the above resources. The standards and guidelines contained in the Forest Plan are designed to provide the desired effects of management practices on the other resource values. The Selected Alternative meets or exceeds applicable standards and guidelines, as noted under the "Consistency with Forest Plan" section. My consideration of these factors is documented in Chapters 1-3 of the FEIS.

*Be practical in terms of transportation and harvesting requirements and total costs of preparation, logging, and administration.* Implementation of Alternative 3 will require 14 miles of temporary road construction. Following fuels treatments all newly constructed temporary roads will be restored by recontouring, seeding and covering with slash. Alternative 3 is a practical selection as shown in the economic analysis (FEIS pages 3.\_\_ - 3.\_\_). The treatment and yarding design feasibility is contained in the project file. The Selected Alternative will not require any unusual or complex yarding systems.

### **Sensitive Species**

Federal law and direction applicable to sensitive species include the National Forest Management Act and the Forest Service Manual (2670). The Regional Forester has approved the sensitive species list – those plants and animals for which population viability is a concern. In making my decision, I have reviewed analysis and projected effects on all sensitive species listed as occurring or possibly occurring on the Beaverhead-Deerlodge National Forest (FEIS 3.103-3.117). These findings support the conclusion that Alternative 3 will have no adverse impacts on sensitive species.

### **Indian Tribe Concerns**

An Executive Order, (November 6, 2000), directs federal agencies to consult and collaborate with Indian Tribes on proposed legislation, policy and actions that have substantial direct effects on one or more Indian Tribes. The Forest Archaeologist met with representatives of the Confederated Salish/Kootenai and

Shoshone-Bannock Tribes and discussed the project with them. No comments were received from the tribes concerning this project.

## **The Clean Air Act**

Implementation of the Selected Alternative will be compatible with Montana State Air Quality Bureau goals for clean air based on Forest Service participation and compliance with burning restrictions set by the Montana State Airshed Group.

## **The Clean Water Act and State Water Quality Standards**

The design of project activities and roads is in accordance with Forest Plan standards and guidelines, the Regional Guide, Best Management Practices, and applicable Forest Service manual and handbook direction. Monitoring and evaluation of the implementation and effectiveness of Forest Plan standards and guidelines and Best Management Practices will occur. Project activities are expected to meet all applicable State of Montana water quality standards. A meeting was conducted on Friday, November 14, 2003, that included the Program Manager and Water Quality Specialist for the Public Water Supply Section of MT DEQ, and representatives from EPA Region 8 and the Forest Service. The objectives, proposed actions and alternatives were discussed with particular attention given to the regulatory framework that addresses activities within an A-closed watershed, which does not require treatment by a filtration system.

All roads will be designed and constructed in accordance with the applicable Best Management Practices listed in Chapter 2 and Appendix D. No permits under Section 404 of the Clean Water Act will be required.

## **The Endangered Species Act (16 USC 1531 et seq.)**

In accordance with Section 7 (c) of the Endangered Species Act, as amended, the U.S. Fish and Wildlife Service identified gray wolf, bald eagle and Canada lynx as the listed and proposed threatened or endangered species that may be present on the Deerlodge portion of the Beaverhead-Deerlodge National Forest. The Biological Assessment concluded that the action is "not likely to jeopardize the continued existence" for non-essential experimental gray wolf, and "will not affect the bald eagle," and "is not likely to adversely affect" the Canada lynx. The USFWS issued a biological opinion (BO) and a letter of concurrence for these determinations on March 24, 2004.

## **Historic Preservation Act**

Cultural resource surveys of varying intensities have been conducted, following inventory protocols approved by the State Historic Preservation Officer. Native American communities have been contacted and public comment encouraged, however no comments were received. Temporary roads, skid trails, landings and similar developments were not designated on the ground for this analysis. These areas of site-specific ground disturbance will need to be inventoried for heritage resources when they are established to comply with the Section 106 consultation process.

A 15-percent sample survey of all prescribed fire areas following burning will need to be completed to comply with the Region 1 Programmatic Agreement between the Montana State Historic Preservation Office (SHPO) and the Forest Service on management of heritage resources.

## Environmental Justice and Civil Rights

Executive Order 12898, issued in 1994 ordered Federal Agencies to identify and address any adverse human health and environmental effects of agency programs that disproportionately impact minority and low-income populations. The Order also directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife.

The Civil Rights Act of 1964 provides for nondiscrimination in voting, public accommodations, public facilities, public education, federally assisted programs, and equal employment opportunity. Title VI of the Act, Nondiscrimination in Federally Assisted Programs, as amended (42 U.S. C. 2000d through 2000d-6) prohibits discrimination based on race, color, or national origin.

State of Montana 2000 census data reported 34,606 people living in Silver Bow County. Demographically, Butte-silver Bow County is 93.7 percent White, 2.8 percent Hispanic, 1.8 percent American Indian, 0.4 percent Asian, and 0.1 percent Black. Census data reported that the 2000 per capita personal income for Silver Bow County was \$22,456, compared to \$22,518 for the state. The county unemployment rate in 2000 was 4.2 percent, compared to a statewide rate of 4.1 percent.

The long history mining and mineral processing in and around the city of Butte resulted in contamination that warranted superfund status by the Environmental Protection Agency.

The alternatives have differing effects on wildlife and fish, as described in Chapter 3. None of the alternatives would alter opportunities for subsistence hunting and fishing by Native American tribes. Tribes holding treaty rights for hunting and fishing on the Beaverhead-Deerlodge National Forest are included on the project mailing list, and have the opportunity to provide comments on this project.

Based on the analysis of potential effects, implementation of an action alternative is not likely to adversely affect minority or low-income communities.

## OTHER FACTORS CONSIDERED IN THE DECISION

### National Fire Plan

In August 2000, President Clinton directed the Secretaries of Agriculture and the Interior to develop a response to severe wildland fires, reduce fire impacts on rural communities, and ensure effective firefighting capacity in the future. The President also asked what actions federal agencies, in cooperation with states and local communities could take to reduce immediate hazards to communities in the wildland-urban interface, and to ensure that fire management planning and firefighting personnel and resources are prepared for extreme wildland fires in the future.

The Forest Service responded in October 2000, with the report "Managing Impacts of Wildfires on Communities and Environment," (USDA Forest Service, 2000) known as "**The National Fire Plan.**" Operating principles directed by the Chief of the Forest Service in implementing the report include: firefighting readiness, prevention through education, rehabilitation, hazardous fuel reduction, restoration, collaborative stewardship, monitoring, jobs, and applied research and technology transfer.

As a part of this process, the Departments of Agriculture and Interior prepared "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment (August 2001) and the 10-Year

Strategy Implementation Plan (May 2002). These documents are available at: <http://www.fireplan.gov>. The **10-Year Comprehensive Strategy** was developed by federal, state, tribal, and local government and nongovernmental representatives for the purpose of improving the management of wildland fire and hazardous fuels, as well as meeting the need for ecosystem restoration and rehabilitation in the United States on federal and adjacent state, tribal, and private forest and range lands.

The goals identified in the 10-Year Comprehensive Strategy include:

- Improve Prevention and Suppression (firefighting readiness, prevention through education)
- Reduce Hazardous Fuels (where negative impacts of wildland fire are the greatest)
- Restore Fire Adapted Ecosystems (rehabilitation and restoration of healthy diverse and resilient ecological systems)
- Promote Community Assistance (increase local firefighting capacity, provide technical assistance and cost-sharing incentives, promote utilization of small-diameter material)

The **10-Year Comprehensive Strategy Implementation Plan** (May 2002) establishes a collaborative, performance-based framework for achieving the goals and actions of the 10-Year Comprehensive strategy, and identifies performance measures, tasks and tools to identify key benchmarks, and track progress over time to achieve national goals at the local level in an ecologically, socially and economically appropriate manner.

The Basin Creek Hazardous Fuels Reduction Project responds directly to Goal 2 of the 10-Year Comprehensive Strategy by focusing on hazardous fuels reduction in a municipal watershed and an urban wildland interface community, where the negative impacts of wildland fire are potentially the greatest.

## Northern Region Overview

The Northern Region Overview (1998) assesses ecosystem health and recreation for the Forest Service, Region 1, and is closely tied to the Forest Service Natural Resource Agenda. The Overview is used to implement the Natural Resource Agenda, gain a common view of the Region, communicate about the situation in the Northern Region, and provide an umbrella for further use and refinement by Forests and as a basis for monitoring accomplishments of priorities. It assesses the current vegetative condition for ecosystems found in the Northern Region and identifies risks to these ecosystems and restoration priorities. The Northern Region Overview assessed the current condition and risks to aspen, dry Douglas-fir, and sagebrush/grasslands in the Northern Region and provided justification for treating aspen, dry Douglas-fir, and sagebrush/grasslands in the project area. This decision fully addresses the concerns identified in the Northern Region Overview.

## Natural Resource Agenda

The USDA Forest Service Natural Resource Agenda identifies four main areas of concern. These areas of concern include Healthy Watersheds, Forest Roads, Sustainable Forest Ecosystem Management and America's Playground. Alternative 3 is consistent with all four objectives of the Natural Resource Agenda and maintains healthy watersheds by implementing the use of BMPs (FSEIS, Appendix D) and maintaining stream condition and function. Alternative 3 does not build any new classified roads. Approximately 14 miles of temporary roads will be constructed to perform fuels reduction treatments and restored when the work is completed. Alternative 3 includes routine, essential road maintenance. Adequate public access is

provided with no net increase in road density. Alternative 3 promotes sustainable forest ecosystem management by addressing fuel build ups, increasing the potential for biodiversity in several plant communities and enhances the historic vegetative condition of riparian areas.

## **Lynx Conservation and Assessment Strategy**

The Lynx Conservation and Assessment Strategy (LCAS) was developed to provide a consistent and effective approach to conserve Canada lynx on federal lands in the United States. The Forest Service, along with other federal agencies, initiated a lynx conservation strategy action plan in the spring of 1998. Alternative 3, complies with the conservation measures outlined in this strategy.

## **Inventoried Roadless Area Conservation**

On January 12, 2001, a Final Rule was published in the Federal Register limiting road construction and timber harvest in inventoried roadless areas. The Rule was challenged by nine lawsuits in federal district courts in Idaho, Utah, North Dakota, Wyoming, Alaska, and the District of Columbia. On May 10, 2001, the Idaho Federal District Court issued a preliminary injunction order prohibiting USDA and the Forest Service from implementing the Roadless Rule. This action was appealed to the Ninth Circuit Court of Appeals by interveners in the Idaho cases. On July 27, 2001, interim agency directives were issued by the Forest Service for roadless areas. These interim directives expired on June 14, 2003. On April 14, 2003, the Ninth Circuit Court of Appeals issued a mandate to the Idaho District Court reversing and remanding the lower court's action. The Roadless Area Conservation Rule went back into effect as a result of this ruling. On July 14, 2003, the U.S. District Court for the District of Wyoming issued a permanent injunction and set aside the roadless rule. (Roadless Section, Project File) The court found the roadless rule was promulgated in a manner that was illegal, both procedurally and substantively. The court ruled against the government on five of six claims under NEPA, and also found the roadless rule violated the Wilderness Act of 1964 because the timber harvest and road construction prohibitions constitute establishment of *de facto* wilderness (only Congress can designate wilderness areas). This decision has been appealed to the U.S. Tenth Circuit Court of Appeals. The Final Rule is currently under review. However, consistent with current direction (Bosworth, June 7, 2001) for the management of inventoried roadless areas, Alternative 3 does not propose commercial timber harvest, slashing, burning or road construction in any inventoried roadless area.

## **Noxious Weed Control**

Modified Alternative 6, will comply with the May 2002 Record of Decision and FEIS for the Beaverhead-Deerlodge National Forest Noxious Weed Control. General weed prevention practices for site-disturbing projects will be implemented as outlined in Best Management Practices (BMPs) for the February 3, 1999, Executive Order on Invasive Species.

## **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The Council on Environmental Quality regulations for implementing NEPA requires the Record of Decision specify "the alternative or alternatives which were considered to be environmentally preferable" (40 CFR 1505.2(b)). The environmentally preferable alternative is not necessarily the alternative that will be implemented, and it does not have to meet the underlying need for the project. It does, however, have to

cause the least damage to the biological and physical environment and best protect, preserve, and enhance historical, cultural, and natural resources.

The Basin Creek Hazardous Fuels Reduction project focuses specifically on the objective of reducing hazardous fuels along the wildland/urban interface (intermix community) and the Basin Creek drainage to decrease the potential for crown fires, lower the spread and intensity of future surface fires, and increase the probability of safely defending life and property from fire. The No Action Alternative would not cause any impacts related to fuels reduction activities, specifically thinning and burning, and associated temporary road construction, but it would not reduce the hazardous fuels.

Alternative 2 is the environmentally preferred alternative in terms of the least amount of impacts from fuels reduction activities. I believe, however, that Alternative 3 provides the best balance of meeting multiple resource needs for all resources including reducing the potential for damage from wildfire in the intermix community and the Basin Creek watershed.

## MITIGATION AND MONITORING

This decision fully incorporates the design features, mitigation measures, and monitoring presented in Chapter 2 of the FEIS, pages 2.6 – 2.10. I am fully satisfied that all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted. Monitoring will be conducted to ensure that project implementation is consistent with established standards and guides as well as design features and mitigation of this project. A brief outline of the mitigation is provided.

**Air Quality:** All burning would comply with Montana air quality laws and guidelines.

**Aquatic Resources:** All fuels reduction and associated activities will comply with Inland Native Fish Strategy standards and guidelines.

**Heritage Resources:** In the event that cultural resources are encountered during program activities, the Forest has the authority to modify or stop fuels reduction treatments.

**Hydrology/Water Quality Protection:** Best Management Practices (BMPs) are the primary mechanism essential to achieving water quality standards. Appendix D of the FEIS is the Soil and Water Conservation Handbook which includes applicable BMPs.

**Noxious Weeds:** A variety of mitigation measures will be implemented to prevent the spread of noxious weeds.

**Recreation/Roads:** Existing road management will be maintained. Temporary closures will be used on secondary roads and trails. Temporary roads constructed for this project will be restored by recontouring, reseeding and spreading slash.

**Soils:** Best Management Practices (BMPs) are the primary mechanism of achieving soil quality standards. Appendix D of the FEIS is the Soil and Water Conservation Handbook which includes applicable BMPs.

**Wildlife:** Mitigation measures to ensure protection of nesting goshawks and their young will be implemented.

## APPEAL PROVISIONS AND IMPLEMENTATION

This decision is subject to appeal pursuant to 36 CFR 215.11 by individual or organizations meeting the requirements of 36 CFR 215.13. A written appeal must be submitted within 45 days following the publication date of the legal notice of this decision in the *Montana Standard*, Butte, Montana. It is the responsibility of the appellant to ensure their appeal is received in a timely manner. The publication date of the legal notice of the decision in the newspaper of record is the exclusive means for calculating the time to file an appeal. Appellants should not rely on date or timeframe information provided by any other source.

The appeal must be filed with the Appeal Deciding Officer in writing. It is the appellant's responsibility to provide sufficient project or activity-specific evidence and rationale, focusing on the decision, to show why the decision should be reversed. At a minimum, the appeal must meet the content requirements of 36 CFR 215.14, and include the following information:

- The appellant's name and address, with a telephone number if available;
- A signature, or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
- When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;
- The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
- The regulation under which the appeal is being filed, when there is an option to appeal under either 36 CFR 215 or 36 CFR 251, subpart C;
- Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
- Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
- Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; and
- How the appellant believes the decision specifically violates law, regulation, or policy.

Written appeals must be submitted to:

For Postal Delivery:	For Hand Delivery:
USDA Forest Service, Northern Region ATTN: Appeals Deciding Officer P.O. Box 7669 Missoula, MT 59807	Northern Region Headquarters Federal Building, 200 East Broadway Missoula, Montana Business Hours: 8:30 AM to 4:00 PM

Appeals may be FAXed to (406) 329-3411

For electronic appeals, the e-mail subject line should contain the name of the project being appealed. An automated response should confirm your electronic appeal has been received. Electronic appeals must be submitted in MS Word, Word Perfect, or Rich Text Format (RTF). Electronic appeals must be submitted to: [appeals-northern-regional-office@fs.fed.us](mailto:appeals-northern-regional-office@fs.fed.us).

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

The FEIS and supporting documentation are available for public review at the Beaverhead-Deerlodge National Forest, 420 Barrett Street, Dillon, Montana 59725; phone (406) 683-3948.

/s/ Thomas K. Reilly

April 26, 2004

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THOMAS K. REILLY, FOREST SUPERVISOR

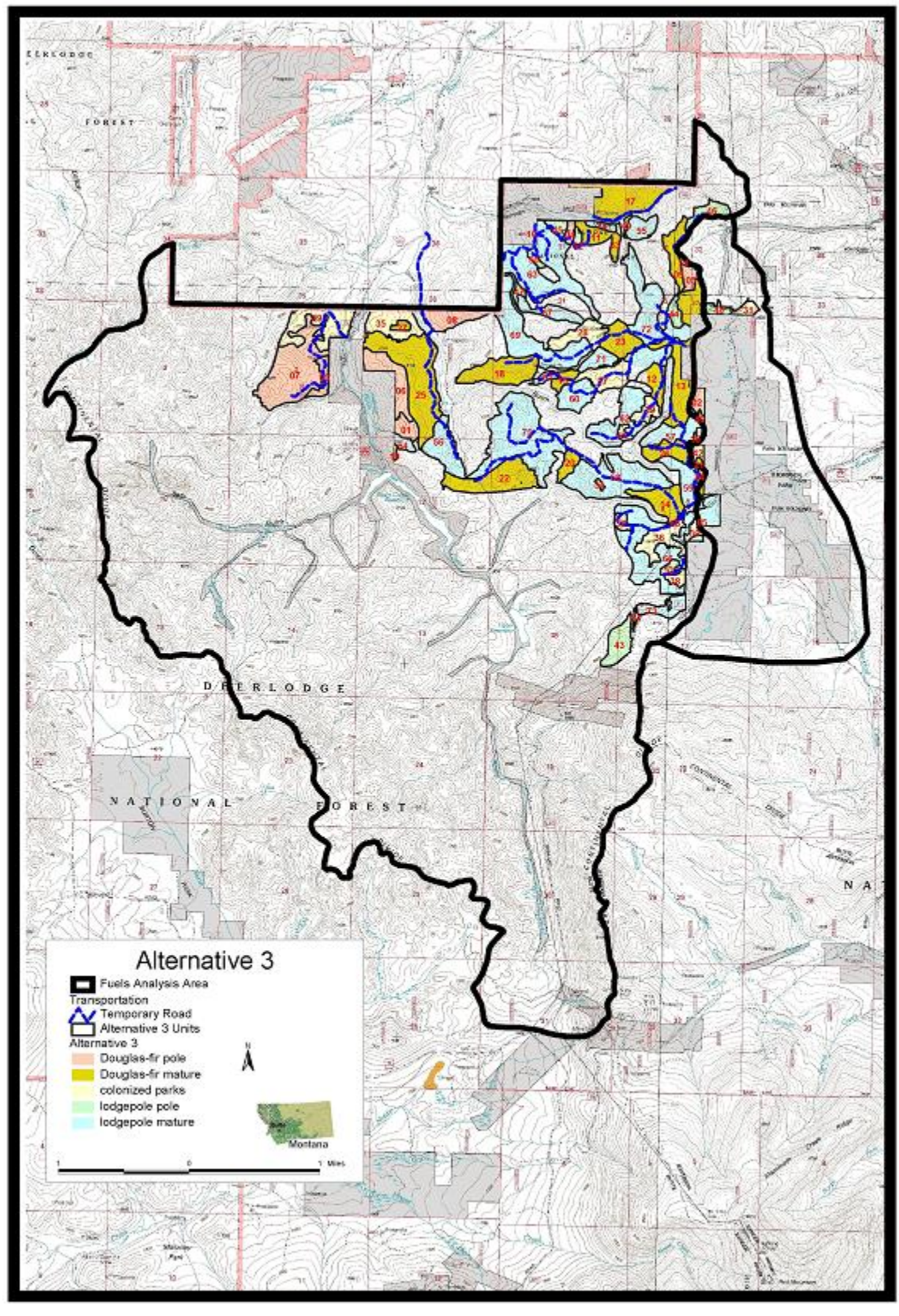
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Date

Beaverhead-Deerlodge National Forest

Attachment: ROD Map 1 - Treatment Units for the Selected Alternative 3

## ROD MAP 1: TREATMENT UNITS FOR THE SELECTED ALTERNATIVE 3



**Basin Creek Hazardous Fuels Reduction Project**

**Record of Decision**

**and**

**Final Environmental Impact Statement**

**Beaverhead-Deerlodge National Forest**

**Butte Ranger District**

**Butte-Silver Bow County, Montana**

**May 2004**

**Responsible Agency:**

**USDA Forest Service**

**Forest Supervisor:**

**Thomas K. Reilly  
Beaverhead-Deerlodge National Forest  
420 Barrett Street  
Dillon, Montana 59725**

**For Further Information, Contact:**

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(406)-683-3948**

**Abstract**

This Final Environmental Impact Statement considers the effects of no action, and the effects of four alternatives that reduce hazardous fuels along the wildland/urban interface and in the Basin Creek watershed in order to decrease the probability of crown fire, lower the spread and intensity of future surface fires, and increase the probability of safely defending life and property from fire. The project is located in the Highland Mountains south of Butte, on the Butte Ranger District of the Beaverhead-Deerlodge National Forest.

Treatment involves thinning tree densities in areas that most contribute to crown fires, removing dead trees in areas that will contribute to future high intensity surface fires, and burning sage/grass communities that have been encroached by conifers. Treatment will be accomplished using mechanized equipment (all action alternatives), and helicopter logging in the inventoried roadless area (Alt. 4).

**Alternative 1 – No Action.** No new activities would be initiated at this time.

**Alternative 2.** Removes hazardous fuels on approximately 1,102 acres adjacent to private land, none of which occur in inventoried roadless. This alternative requires approximately 11 miles of temporary road.

**Alternative 3 – Selected Alternative.** Includes all of the treatment proposed under Alternative 2, and treats additional areas that could contribute to crown fires and high intensity surface fires. Treatment is proposed on approximately 2,600 acres, none of which occur in inventoried roadless. This alternative requires approximately 18 miles of temporary road.

**Alternative 4.** Includes all of the treatment proposed under Alternative 2, and treats additional areas that were developed using traditional methods for placement of fire suppression lines (upper slopes and ridges). Treatment would occur on approximately 4,226 acres, including areas located in Inventoried Roadless Area #01-430. This alternative requires approximately 22 miles of temporary road and 5 miles of trail reconstruction.

**Alternative 5.** Includes all of the treatment proposed under Alternative 4, but excludes treatment in the inventoried roadless area. Treatment is proposed on approximately 3,018 acres, and would require approximately 17 miles of temporary road.

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# CHANGES FROM DRAFT TO FINAL EIS

## CHAPTER 1

The Purpose and Need was clarified.

Key issues were narrowed from seven key issues in the DEIS to three key issues in the FEIS. Only issues that drive an alternative or would require a Forest Plan Amendment are identified as key issues in the FEIS. Hazardous Fuels and threats to water quality are addressed by the purpose and need for action.

Other “issues” identified in the DEIS are now identified as Resource Concerns and are tracked through the document. A table describing the Resource Concerns was added.

Information was edited and clarified for accuracy.

## CHAPTER 2

In the first paragraph the term compatibility was changed to consistency.

The bullet statement below paragraph two was changed to read “Low levels of downed logs and woody fuels (less than 25 tons/acre)” was changed to (less than 15 tons/acre).

Alternative 1 was revised to include a discussion of the potential for stand-replacing fire in 2028 based on fuel modeling.

A heading in Table 2.1 was changed from Habitat Type to Cover Type.

The last paragraph under the heading Features Common To All Action Alternatives on page 2.5 of DEIS was deleted.

Additional Aquatic mitigation measures including mitigation for boreal toads were added.

Additional Wildlife mitigation was added, including additional mitigation for northern goshawk.

Soils mitigation was included.

The paragraph “The existing condition of the Blacktail watershed currently exceeds the 15% soil disturbance standard for soil quality.....” was deleted. The existing condition of the Blacktail watershed is described in Chapter 3 in the Soils section of this document. The high level of disturbance in the Blacktail watershed is due to roads on private land, not activities on Forest Service lands.

Scenery mitigation was deleted and is included in project design.

The sentence "Mitigation may be required for a minerals exploration site depending upon the timing and duration of timber harvest" was deleted. There is no need for mitigation.

The word Future was added to the heading on page 2.10 of the FEIS to read Past, Present and Reasonably Foreseeable Future Actions.

The word "compatibility" was changed to "consistency" in the heading on page 2.13 of the FEIS.

Language on page 3.12 of the FEIS describing the consistency with the Deerlodge Forest Plan was simplified.

Table 2.3: "Summary of trade-offs and potential impacts between alternatives by issues and objectives" was revised to only include Key Issues as identified in Chapter 1. A Summary of the Effects of the Alternatives is included in a table in the Record of Decision.

Consistency with additional Forest Service policies, regulations and guidelines, and additional laws was included in the FEIS on pages 2.13-2.16.

Information was edited and clarified for accuracy.

## **CHAPTER 3**

### **Fire and Fuels**

Page 3.3 of DEIS: Deleted section titled "Fire Regime/Condition Class" which ended on page 3.5 of the DEIS. This discussion is in the project file.

Page 3.7 of FEIS: Added text at the bottom of the page starting with "Additionally, Losensky (2002)."

Page 3.10 of FEIS: Added "(square feet/acre)" at the top of page, in the second line after "difference in basal area".

Page 3.11 of FEIS: Added "model" in the last paragraph, second line after "input to a fire spread". Deleted "used in fire spread models" from last paragraph.

Page 3.14 of FEIS: Changed "table 6 above" to "table 3.4"  
Deleted the word "below" in last paragraph.

Page 3.15 of FEIS: Added "a" before "High" resistance to control means.  
Replaced "slow work for dozers" with "that work will be difficult for dozers."  
Added "and" before "will be difficult for dozers."  
Replaced "hand" with "and,"

Page 3.17 of FEIS: Replaced "crowning index and torching index," with "that," and ran the first two sentences together. Inserted "These are crowning index and torching index, and" into the beginning of the next sentence. Uncapitalized "the" before "interplay of the indices." Added "The actual values associated with Figure 3.3 can be found in Table 3.6" as the last sentence of page.

Page 3.19 of FEIS: Added "within the stand" in the first paragraph after "incapable of getting a fire into the crowns." Replaced "susceptible to" with "killed by" in second paragraph. Added "\*\*N/A refers to sagebrush/grass vegetation types and/or private land" in end of table's description.

Page 3.21 of FEIS: Replaced "discussed" with "addressed" in second paragraph. Replaced "above" with "Table 3.5" in second paragraph.

Page 3.22 of FEIS: Added last paragraph under "Fire Effects." Added first two paragraphs on page. Added last paragraph on page.

Page 3.23 of FEIS: Added first three paragraphs of page.

Page 3.24 of FEIS: Added "This program does not account for insect and disease epidemics or large fuel accumulations related to them" as last sentence of first paragraph.

Page 3.28 of FEIS: Replaced "will not exceed" with "are reduced to". Changed spelling of "reasonable" to "reasonably". Changed Forest Vegetation Simulator Fire (FVS), to Forest Vegetation Simulator (FVS), Fire. Changed discussion of models to display that the FARSITE model was only used in the analysis of the existing condition and the no action alternative.

Page 3.29 of FEIS: Deleted "all of" and added s to the word "create" to change sentence structure in the last paragraph on that page.

Page 3.30 of FEIS: Changed "To assess" to Assessing in the last sentence, first paragraph.

Page 3.31 of DEIS: Deleted the heading "Sagebrush/grass."

Page 3.30 of FEIS: Replaced "In 2028" with "Over time" to begin the first sentence of the fourth paragraph. Added "in sagebrush/grass communities" at the end of the first sentence in fourth paragraph. Added "Over time, forest fuels will accumulate" before "more fuel leads to increase fire" Added "and" and made "More" lowercase to merge the third and fourth sentences of fourth paragraph. Replaced "Opportunities will be lost for openings to provide" with "As these openings are lost, opportunities for" to change paragraph structure. Replaced "which allow for safe, efficient fire suppression efforts" with "are also lost, leading to a decrease in the ability to safely and efficiently suppress fires" at the end of paragraph 4.

Page 3.31 of FEIS: Added species abbreviations designations to description of table. Deleted "ranging from Fuel Model 8 to" in first sentence of first paragraph.

Page 3.35 of FEIS: Added (see Table 3.10 for weather and fuel conditions associated with these fire types) to Table 3.19 description

Page 3.36 of FEIS: Added comma after 2 in "2,000" after Sheeps Creek Fire Burned," and added "acres" after "2,000." Changed "Blackwall Fire has burned \*\* to date" to "Blackwall Fire burned over 3,500 acres".

Page 3.39 of FEIS: Changed "which lower fuel moisture and increases..." to "thereby lowering fuel moisture and increasing..." Changed the beginning of the next sentence from "These fires..." to "However, these fires..."

Page 3.40 of FEIS: Deleted comma after Hayman Fire in the last sentence of second paragraph. Changed "The picture below" to "Figure 3.12" in the last paragraph. Removed the letter "a" from before "fire break" and added an "s". Added the letter "d" after remove, and added "ed" to allow in the third to last sentence of the last paragraph

Page 3.41 of FEIS: Changed "20 acres" to read "20 percent" in first paragraph. Added a quotation mark after "green trees" in the first paragraph. Added "Fuel treatment units are likely more effective under moderate conditions than during extreme situations" to the end of first paragraph.

Page 3.42 of FEIS: Added "Subalpine fir stands were not analyzed in the alternative effects analysis because these stands were not treated under any of the action alternatives. Therefore, these stands will have the same characteristics as under the no action alternative.

Page 3.42-3.44 of FEIS: Added description of treatments to discussion of stand characteristics after action in the action alternatives to brief the reader on treatment type.

Page 3.43 of FEIS: Moved Douglas-fir Pole to appear before table to make it better fit the page. Added "Most of the lodgepole pine will be removed from these stands, and Douglas-fir will remain where they occur" to beginning of Mature Lodgepole Pine paragraph. Added "These stands will be thinned to a basal area between 80 and 120 sq ft/ac" to beginning of Lodgepole Pine Pole paragraph.

Page 3.44 of FEIS: Added "Most of the lodgepole pine will be removed and the remaining Douglas-fir will be thinned from below to a basal area between 40 and 80 sq ft/ac, retaining trees in a clumpy distribution where possible" to beginning of Mature Douglas-fir paragraph.

Page 3.45 of FEIS: Changed Mature Lodgepole Pine severe fire flame length from 4.8 to 4.2 to reflect what the model actually predicted in Table 3.22

Page 3.48 of FEIS: Add new paragraph with heading "Sagebrush/Grass" after first paragraph. Added "Smoke production is discussed in the air quality chapter" to the end of Fire Effects paragraph.

Page 3.50 of FEIS: Change "treetops also remain in the unit" to "treetops remain in the units yarded by helicopter. Added "where" to last sentence of paragraph before " the intermix community and." Added the letter s to "home" in the last paragraph after "slope below the home."

Information was edited and clarified for accuracy.

## Vegetation

Page 3.58 of FEIS: Table 3.26 Draft compartment acres were transposed. Compartment 414 corrected to 10,950 acres and compartment 416 corrected to 10,804 acres. This changed total percent to 2.3% instead of 2.43% for 414 and 10.3% instead of 10.19 for 416.

Page 3.61 of FEIS: Changed description of analysis area to coincide with the analysis area used for Fire and Fuels.

Page 3.64 of FEIS: Changed basal area in Mature Douglas-fir to 40-80 instead of 60 to match description of treatments for alternatives in the proposed action.

Page 3.68 of FEIS: Changed table to reflect acreage changes. Changes are due to changing strata calls in Douglas-fir area north of Basin Cr. Reservoir and are a result of ground truthing.

Page 3.69 of FEIS: Table 3.28 also changed due to the reasons above. Table title changed. A correction was made for the total acres in Alternative 4 in the DEIS. In the DEIS the total was 4,723 acres and has been corrected to 4,273 acres. This did not change the totals for each vegetative type.

Information was edited and clarified for accuracy.

## Wildlife

Discussion was added to the existing condition and environmental effects sections to address project effects on pine marten, pileated woodpecker, and neotropical migratory birds (including fragmentation of forest interior species).

Forest Inventory and Monitoring Data on old growth and snag densities were added to appropriate sections of the document with clarification on project impacts to viability for snag/cavity dependent wildlife.

Clarification was added to FEIS to address existing snowmobile use in the analysis area and the potential for effects on wolverine.

Wildlife maps were clarified and reprinted.

The Biological Evaluation for sensitive wildlife species was completed and added as an Appendix.

The Biological Assessment for the T&E species for Alternative 3 was added as an Appendix.

A summary of mitigation and or special project design standards that will minimize risks to terrestrial TES and MIS was added Chapter 2 of the FEIS. These include:

- Noxious weed prevention and control incorporating Best Management Practices to prevent undesirable herbicide effects (1986 Beaverhead Forest Environmental Assessment, Executive Order 2/3/99 on Invasive species).
- Application of INFISH standards and guidelines within Riparian Habitat Conservation Areas (RHCAs), including no harvest buffers within 300 feet slope distance on each side of the active stream channel on fish-bearing streams; 150 feet on non-fish bearing streams, and 50 feet on intermittent streams and wetlands.
- Road and landing locations in RHCAs would be minimized.
- Fuel storage and refueling activities would not occur in RHCAs.
- Dust abatement chemicals would not be applied in RHCAs.
- Road use would be ceased during wet weather and runoff periods to minimize erosion.
- Any new soil disturbances in treatment units would be restored or mitigated.
- 10 to 15 tons/acre of woody debris would be left on site in treatment areas.
- 5 snags per acres (concentrated at the edge of harvest units or near wet areas would be retained in all treatment units.
- Trees would be retained in a clumpy or variable fashion.
- All landing sites would be recontoured and revegetated.
- All temporary roads constructed to facilitate log hauling would be recontoured and reseeded.
- No treatments would occur in a single acre of designated old growth.
- Treatments are designed to protect aspen clones and promote aspen regeneration.
- Treatments are designed to restore grassland parks.
- Treatments and treatment related disturbances would be concentrated in the lower elevation, more roaded portions of the analysis area.
- No treatments would occur in the higher elevation, unroaded portions of the analysis area including the Inventoried Roadless Area and Research Natural Area.
- Administrative use only would be allowed on temporary roads constructed to facilitate log hauling.
- Contract clauses specify that the roads must be located in areas that require the least amount of cutting, and that the roads will remain open for the shortest amount of time possible.
- **Disturbance** around occupied goshawk nest sites would be **minimized** through the use of a 40-acre no harvest buffer.

**To ensure adequate protection of nesting goshawks and their young from disturbance during the critical incubation, nestling and post fledgling periods include the following:** No treatment or treatment related disturbance (i.e. road building) will occur from mid-April through late July within a 170-ha area (PFA) centered on the last known active nest (map in project file). A goshawk nest protection clause will be added to the sale contract which states: if a new (previously unknown), active goshawk nest is discovered during marking or logging operations, a 40-acre no harvest buffer will be established around the nest to conserve the nest area, and no treatment related disturbance will occur within a 170-ha area from mid-April through late July. On August 1, treatment-related activity may commence within the 170-ha area. No treatment related activity would occur at any time within the 40-acre protected nest area. Information was edited and clarified for accuracy.

Information was edited and clarified for accuracy.

## Fisheries and Aquatic Resources

Additional discussion was added to the FEIS on cumulative effects to boreal toads. Road mileages in tables 3.56, 3.57, and 3.58 were recalculated more accurately between draft and final. New mileages in the FEIS are more accurate than those in the DEIS.

Map 26 was updated to reflect the most current information about amphibian sites.

Maps 27 and 28 were duplicates in the DEIS. The original Map 27 has been deleted and Map 28 has become Map 27.

The Aquatic Biological Evaluation was completed and added as an Appendix.

Information was edited and clarified for accuracy.

## Hydrology and Riparian Areas

Page 3.186 of the FEIS: Name is now Upper Basin for watershed above the reservoir (formerly Basin)

Page 3.186 of the FEIS: Acreage for Lower Basin changed to 1,829 acres.

Page 3.187 of the FEIS: Designated Beneficial Water Uses: Removed "DEQ Circular PWS-3 (Criteria to avoid filtration of a Surface Water Source or A Groundwater Source Under the Influence of Surface Water)" and replaced with "40 CFR 141.71".

Page 3.187 of the FEIS: Water Quality: Amended sentence: Potential sources for turbidity include point and non-point (diffuse) sources of soil erosion and nutrient inputs into the reservoir system that may trigger algae blooms. Control of algae is also important in preventing the formation of trihalomethanes, which occur when water tainted with algae interacts with chlorine. Replaced PWS 3 with "40 CFR 141.71".

Page 3.188 of the FEIS: Water Quantity: Added sentence: Water diverted from Fish Creek also originates mainly from snowmelt, with peaks normally occurring in early/mid June.

Page 3.188 of the FEIS: Stream Morphology: Changed Basin Creek to Upper Basin Creek. Removed Figures 3.27 and 3.28 (they do not represent Upper Basin Creek above the diversion). The reference to Figures 3.28 and 3.29 is now placed after "...loss of flood plain access".

Page 3.191 of the FEIS: Past and Present Land Management

Timber Harvest: Add sentences: "Harvest took place in the early 1990s below Forest Road 84 just south of the upper reservoir on private land. No erosion is associated with this harvest."

Page 3.184 of the FEIS: Regulatory Framework

Corrected "SWDA" with "SDWA". Removed "the DEQ Circular PWS-3 (*Criteria to Avoid Filtration of a Surface Water Source or A Groundwater Source Under the Influence of Surface Water*)". This circular supplements ARM Title 17, Chapter 30, Subchapter 2. Other requirements listed in the

circular include a watershed control program, disinfection, and annual reporting.” and replaced with “40 CFR 141.71.”

Page 3.197 of the FEIS: Introduction: Added “change in substrate composition” after decreased sinuosity.

Page 3.205 of the FEIS: Alternative 2: Timber Harvest and Road Construction Direct Effects: Three stream crossings proposed. Indirect Effects: Removed “and about 0.2 tons/year delivered to Herman Gulch.”

Page 3.206 of the FEIS: Alternative 3: Timber Harvest and Road Construction Direct Effects: Two stream crossings proposed. Burning Indirect Effects: Removed “Lower Basin”

Page 3.207 of the FEIS: Alternative 4: Timber Harvest and Road Construction: Indirect Effects: Removed “WEPP predicts about 0.2 tons/year delivered to Herman Gulch.”

Page 3.209 of the FEIS: Alternative 5: Cumulative Effects Upper Basin Creek: Replace existing sentence with “The effects of this alternative, when considered with past and present effects of flow augmentation, ranks second among all alternatives in terms of reducing the risk or threat of further loss of channel stability. No change from existing condition is expected for functioning-at-risk and non-functioning reaches.”

Page 3.210 of the FEIS: Revised Figure 3.32 is below (renamed Basin “Upper Basin”).

Information was edited and clarified for accuracy.

## **Soils**

Pages 3.217 – 3.229 of the FEIS: Basin watershed, named changed to Upper Basin watershed.

Included percent of watershed area affected by roads.

Information was edited and clarified for accuracy.

## **Roadless**

Additional information about the July 14, 2003, Wyoming District Court Ruling was added to the analysis.

Page 3.232 of the FEIS: Added a sentence to incorporate by reference the Roadless Area Conservation FEIS.

Page 3.234 of the FEIS: Added a sentence that old logging skid trails and unimproved abandoned roads are present.

Page 3.246 of the FEIS: Included reference to the Unroaded section of the FEIS.

Information was edited and clarified for accuracy.

## **Scenery**

Pages 3.248-3.249 of the FEIS: The summer ROS GIS layer of the forest was used instead of using Appendix N (Hunting Recreation Objectives) of the Deerlodge Forest Plan to determine the ROS setting to be used for developing the VQO mixes.

Page 3.351 of the FEIS: Landscape Visibility and key viewpoints were used (was Concern Level One and Two Sites and Routes in the DEIS).

Page 3.52 of the FEIS: Changes were made to the analysis methods section to explain how alternatives were reviewed against the forest plan standards for scenery.

A more detailed analysis and discussion of the effects on scenery by alternative is displayed, with 3-D mapping techniques used to display effects from selected key viewpoints for various alternatives.

Mitigation measures for scenery in the DEIS repeated those mitigations included in the vegetation treatments. These were mostly dropped, and more specific mitigations developed for the project.

Information was edited and clarified for accuracy.

## **Recreation**

Forest Plan Standards for recreation were identified for the management areas within the project and compliance with Forest plan direction for recreation was analyzed.

Information was edited and clarified for accuracy.

## **Minerals**

Forest Plan Standards for minerals were identified for the management areas within the project and compliance with Forest plan direction for minerals was analyzed.

Information was edited and clarified for accuracy.

## **Lands**

Approximately 2 acres located in T. 2 N., R. 7 W., section 31 are currently in a trespass situation may be removed from National Forest System lands through small tract acquisition (STA). The effects of the small tract acquisition will be analyzed in a future NEPA process and would analyze the effects of removing lands from the National Forest System and transferring them to private ownership. However, under this alternative in the Basin Creek Project proposal, timber would be harvested on the east side on what may become private land. In addition the road that would be used to haul timber is located approximately 15 feet from a private home that was built on the property. Based on the STA NEPA decision and prior to full implementation of this proposal, the proposed harvest and road access may have to be removed from the Basin Creek Project.

An Unroaded Analysis was added to Chapter 3.

A Roads Analysis was added to Chapter 3.

A Social Analysis was added to Chapter 3.

An Economic Analysis was added to Chapter 3.

## **CHAPTER 4**

Response to Comments on the DEIS was added.

## **Appendix A**

The glossary, literature cited and list of preparers were updated.

## **Appendix B**

Maps from the DEIS were improved and labeled. Map 27 was deleted and Maps 29, 30 and 31 were added.

## **Appendix C**

The tables were updated.

## **Appendix D**

This appendix was updated.

## **Appendix E**

This appendix was updated.

## **Appendix F**

The Biological Assessment for Threatened and Endangered Wildlife Species and the Biological Evaluations for Aquatic Species, Sensitive Plants and Wildlife were added.